Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/863,794	KRUPA, KENNETH A.
	Examiner	Art Unit
	Kuen S Lu	2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 April 2004_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _7-25_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _7-25_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendments

1. The Examiner acknowledged and considered the Applicant's Amendments to the Drawings filed on April 8, 2004.

2. In responding to Applicants' Amendments made to the claims, filed on April 8, 2004, the Examiner has created this Office Action for Final Rejection as shown next.

3. As for the Applicants' Remarks/Arguments, filed on April 8, 2004, has been fully considered by the Examiner, please see discussion in the section *Response to Arguments*, following the Office Action for Final Rejection.

Priority

4. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged, based on Application 60/206,325, filed on May 23, 2000.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention. The analysis under 35 U.S.C. 112, first paragraph, requires that the scope of protection sought be supported by the specification disclosure. The pertinent inquiries include determining (1) whether the specification disclosure as a whole is to enable one skilled in the art to make and use the claimed invention.

Claims 13 and 16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The enablement requirement necessitates a determination that the disclosure contains sufficient teaching regarding the subject

matter claimed as to enable one skilled in the pertinent art to make and use the claimed invention. In essence, the scope of enablement provided to one ordinarily skilled in the art by the disclosure must be communuserate with the scope of protection sought by the claims.

Currently, the most prevalent standard for measuring sufficient enablement to meet the requirements of 112 is that of "undue experimentation". The test is whether, at the time of the invention, there was sufficient working procedure for one skilled in the art to practice the claimed invention without undue experimentation. It is important to note that the test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, is it undue. An skilled artisan is given sufficient direction or guidance in the disclosure. Moreover, the experimentation required, in addition to not being undue, must not require ingenuity beyond that expect of one of ordinary skill in the art.

Undue experimentation and ingenuity would be required beyond one ordinarily skilled in the art to practice: " creating a row of the relational database that includes the identifier, the sequence identifier for the node" in claims 13 and 16. Undue experimentation would be needed to create a data row without making an increment to the sequence identifier.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 7-8, 17-18 and 21-23 are rejected under 35 U.S.C. 102(e) as anticipated by

Dodds et al. (U.S. Pub. 2002/0116371A1, hereafter "Dodds").

As per claim 7, Dodds teaches the following:

"assigning an identifier to every node of the XML document" at Page 4, [0037], lines 1-4

by using OrderPath to identify each node of the XML document;

"assigning a respective sequence identifier to each node of the XML document" at Page

2, [0011], lines 8-10 to sequence the node by using OrderPath;

"...respective sequence identifiers identify an order of the nodes in the XML document"

at Page 2, [0011], lines 8-10 and Page 4, [0039], lines 4-5; and

"converting each node of the XML document into a respective row of the relational

database" at Page 4, [0040], lines 4-7, [0037], lines 7-21 and [0038].

As per claim 8, Dodds teaches "processing a prolog of the XML document if one is

present", "subsequent to processing the prolog, processing a body of the XML

document" and "subsequent to processing the body, processing an epilog of the XML

document if one is present" at Fig. 5, elements 81-88 and Page 3, [0032], lines 1-7 and

16-21 by converting prolog, body and epilog subsequently as the XML document is

structured.

As per claims 17-18, Dodds teaches assigning and including "an identifier to the XML

document" at Page 3, [0034] and the NodeName at the first line of DocNode table at

Page 4, [0037]; and,

"creating a row of the relational database that includes the identifier, and a content of one of the plurality of nodes" and "a row containing, content from a node of an Extensible Markup Language (XML) document" at Page 4, [0040].

As per claims 21 and 22, Dodds teaches "...a sequence identifier for the node, and XML element attributes" and "... an element name, an attribute type, and an attribute value" at Fig. 5, steps 81-88, Fig. 4, and Page 4, [0037] and [0038].

As per claim 23, Dodds teaches "a sequence identifier for the node, an element name, an element type, an indication of the number of times this element type has been encountered and a text of the element" at Fig. 5, steps 81-88, Fig. 4, and Page 4, [0037] and [0038] by using the number at the node level in the OrderPath to indicate the numbers of the element type encountered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 9-16, 19-20 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dodds et al. (U.S. Pub. 2002/0116371A1) as applied to claims 7-8, 17-18 and 21-23, and further in view of Chau et al. (U.S. Pub. 2002/0123993 A1).

As per claims 9-16, 19-20 and 24-25 Dodds et al. (hereafter Dodds) does not teach decomposing the node or element specifically into subfields in terms of type,

attribute, comment, pcdata, text, cdata, target, instruction, comment and further

mapping each of the decomposed subfields as column values of the data row to be

inserted into the database table, though Dodds teaches the following:

"retrieving a node from the prolog", "retrieving a node from the epilog", "retrieving

an XML element" and "retrieving another element" at Fig. 5, step 81 and Page 3,

[0033] when an entry is retrieved for its type verification;

"determining a type for the node", "determining if the element is empty" and

"determining a type for the another element" at Fig. 5, steps 81 and 83, and Page 3,

[0033] when an entry is being verified for element or attribute and an empty value is

assigned to an empty element at Page 4, [0037] and [0038]; and

creating document node including a NodeName value (the name of the element), a

NamePath, an OrderPath value and NodeValue value as a row data to be stored in

the relational database at Page 4, [0039].

However, Chau teaches storing XML document into relational database tables

by decomposing XML document with application specific mappings at Page 54, [0881].

Chau teaches parsing the XML document and an XML formatted Data Access Definition

(DAD) with application specific mapping to generate an XML document DOM

(Document Object Model) and a DAD DOM and then working on both DOM trees to

map data In the incoming XML document DOM tree to columns in relational tables,

according to the DAD DOM tree at Page 54, [0882].

It would have been obvious to one having ordinary skill in the art at the time of the

applicant's invention was made to combine Chau' teaching into Dodds' by using

DAD DOM tree to decompose XML document lines in further detail such that every

node could be classified as one of the seven kinds (root, element, text, attribute,

namespace, processing instruction and comment) because by doing so, it could

establish the relationship between user-defined DAD DOM for an XML document

and XML document specification for facilitating the store and retrieval of documents

into and from a relational database. Furthermore, the more detailed node type

categories, such as pcdata and cdata could be appended to the DTD node of

NamePath table in Dodds' system such that node types could be better understood.

As per claims 9 and 11, Chau teaches defining XML document tree structure

by using node types processing_instruction_node and comment_node through

user-defined DAD for decomposing XML document lines and composing every node

into sub-fields for forming a data row to be inserted into database table at Pages

8, [0133], Pages 55-56, [0897], [0898] and [0909], and Page 74, [1070].

As per claims 10 and 12, Dodds teaches increment of sequence identifier

by increasing the OrderPath for each node on the depth of node level and its

number of times encountered at Page 4, [0038].

As per claims 13-16, Chau teaches defining XML document tree structure

using element, processing instruction, attribute, comment and text nodes through

user-defined DAD for forming a data row to be inserted into database table at Pages

55-56, [0893]-[0895], [0897]-[0898], [0909], and Page 74, [1071].

As per claims 19 and 20, Dodds teaches using DAD to define XML document

tree structure to include processing instruction and comment nodes for decomposing

and composing data row to be inserted into relational database table at Pages 55-56,

[0897]-[0898], [0909], and Page 74, [1071].

As per claims 24-25, Chau teaches cdata and pcdatga as node types at Page

8, [0133] in DAD which is further defined by a Document Type Definition, and Page

55, [0891] and [0894] in the text_node.

8. The prior art made of record

   A. U.S. Pub. No. 2002/0116371 A1

   B. U.S. Pub. No. 2002/0123993 A1

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

   C. U.S. Pub. No. 2002/0010764 A1

   D. U.S. Pub. No. 2001/0056429 A1

   E. U.S. Pub. No. 2001/0037345 A1

   F. U.S. Patent No. 6584459 B1

   G. U.S. Pub. No. 2001/0047372 A1

Response to Arguments

9. The Applicants' arguments filed on March 18, 2004 have been fully considered, but

they are not persuasive, for the Examiner's response, please see discussion below.

   a). At Pages 9-10, Concerning rejection of Claims 13 and 16 under 35 U.S.C. 112,

first paragraph, Applicant argued assigning sequence identifier to each XML document

node without the need of incrementing the sequence. The Applicant further pointed out

the respective sequence identifier is stated in the claim upon which the claims depend.

As to the above argument a), the Examiner disagreed because of the following:

Based on Microsoft® Computer Dictionary, 5th Edition, 2002, a relational database is a

database that stores information in tables – rows and columns of data. In the

Examiner's first non-final Office Action, the claim language "creating a row of the

relational database that includes the identifier, the sequence identifier for the node"

where 'a row of database' is suggested and interpreted as 'a row of data in a table'

because 'a row of the relational database' can not be properly interpreted otherwise, in

according to the Dictionary. There is no disclosure on how the 'respective sequence

identifier' is generated, in the claims, although the Applicant suggested the sequence is

incremented by one in Fig. 2   As the Examiner previously stated, the most prevalent

standard for measuring sufficient enablement to meet the requirements of 112 is that of

"undue experimentation". The test is whether, at the time of the invention, there was

sufficient working procedure for one skilled in the art to practice the claimed invention

without undue experimentation. To the best of the Examiner's knowledge, a sequence

for identifying a row of data in a table can be generated by incrementing by a range,

fixed or not, from a previous sequence. Also noted, the range can be a negative value,

as the Applicant argued as 'decremented'. Without making the sequence incremented

or disclosing the formula to generate the sequence 'respective', the test of enablement

is not whether any experimentation is necessary, but whether, if experimentation is

necessary, is it undue. An skilled artisan is given sufficient direction or guidance in the

disclosure. Moreover, the experimentation required, in addition to not being undue, must not require ingenuity beyond that expect of one of ordinary skill in the art.

b). At Page 11, Claims 7, 17 and 18, Applicant further argued OrderPath in the Examiner's reference simply "denotes the breadth-wise order of the node on the path from the root to the node of interest" and this is not the same as "assigning a document identifier, which identifies a particular document against another documents".

As to the above argument b), the Examiner disagreed, please see discussion below.

- In according to Merriam-Webster's College Dictionary, the tenth edition, 2000, both 'assign' and 'denote' serve the purpose of 'mark'.

- There is no support "assigning a document identifier, which identifies a particular document against another documents" from the claims' language. The Examiner does note 'assigning an identifier to every node of the XML document' stated in the claims which implies assigning a node identifier, not a document identifier, even if the node itself may be a document. Identifying a node is not the same as identifying a document.

- Also note the OrderPath is a column of data in every data row for denoting a particular node against another. Although, it is not specifically required, each OrderPath uniquely identifies one node (Page 4, [0038]-[0038]).

c). At Page 12, Claim 7, Applicant repeatedly argued OrderPath does not perform the function of "assigning a respective sequence identifier to each of node of the XML document...".

As to the above argument c), the Examiner disagreed, as previously stated in the Examiner's response to argument item b), the OrderPath is a column of data in every

data row which does denote and identify particular node against another (Page 4, [0037]-[0038]). Although, it is not specifically required, each OrderPath uniquely identifies one node (Page 4, [0038]-[0038]).

As for the rest of the Applicant's arguments for dependent claims 8-16 and 19-25, which depend on claims 8 and 18, respectively, the Examiner disagreed by applying the same responses as previously stated in the items a), b) and c).

10. In light of the forgoing arguments, the U.S.C 102, 103 and 112 rejection for Claims 1-25 are hereby sustained.

Conclusions

11. **THIS ACTION IS MADE FINAL.**

The Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
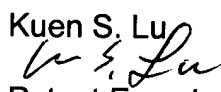
12. The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicant's disclosure.

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose telephone number is (703) 305-9601 for faster service.
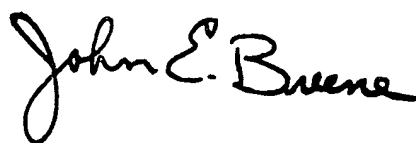
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is 703-305-4894. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Kuen S. Lu
Patent Examiner

June 12, 2004

JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100